projects coming up in joint venture with Tamil Nadu Electricity Board (TNEB) and Gujarat Power Corporation Ltd. Out of these only one Dulanga coal mining blocks has been allotted to NTPC, so far.

(d) Out of the allotted blocks, two coal mines namely, Pakri-Barwadih and Chhatrasal, have been identified for development as basket source and the aggregate coal production from these mining blocks would be around 18 million tonnes per annum (MTPA). Coal from these mines will thus be used to bridge the coal demand-supply gap for NTPC's power plants. Other six blocks will be linked to specific power projects to come up in future. Coal mines to be developed by NTPC/it's Joint Ventures are likely to contribute about 50 MTPA of coal by 2017.

**Modernization of Hydro Power Projects**

2500. MS. PRAMILA BOHIDAR: Will the Minister POWER be pleased to state:

(a) whether Government have launched a massive renovation, modernization and updating of hydro power projects across the country to augment the hydro-generation;

(b) if so, the details thereof;

(c) whether Government have identified 59 such hydro projects for the purpose and the above programme will result in a benefit of 5,461 MW; and

(d) if so, the details thereof indicating those proposed to be located in Orissa?

THE MINISTER OF POWER (SHRI SUSHILKUMAR SHINDE): (a) Yes, Sir.

(b) Recognizing the benefits of the Renovation and Modernization (R&M), Government of India set up a National Committee in 1987 to formulate strategy on R&M of hydro power projects. Based on the recommendations of the National Committee and subsequent review, a programme for R&M and uprating of hydro power stations was formulated by the Central Electricity Authority. Upto the end of VIIIth Plan, a total of 13 hydro R&M schemes having an installed capacity of 1282 MW were completed giving benefit of 429 MW at a cost of Rs. 127.37 Crores. During the IXth Plan 20 schemes having an installed capacity of 4892.10 MW were completed

a cost of Rs. 570 .1612 crores, accruing a benefit of 1093.03 MW. As per the reviewed Xth Plan programme, 37 hydro R&M schemes having an installed capacity of 5257.85 Mw were planned for completion to accrue a benefit of 774.08 MW at an estimated cost of Rs. 1116.11 crores. Out of these, 21 schemes having an installed capacity of 2457.75 MW have been completed so far at a cost of Rs. 841.8397 crores accruing a benefit of 613.15 MW. The balance 16 schemes having an installed capacity of 2800.1 MW are ongoing and after completion of these schemes, there will be a benefit of 160.93 MW at an estimated cost of Rs. 342.02 crores.

(c) Yes, Sir.

(d) The Central Electricity Authority has identified 59 hydro projects for R&M during the XIth Plan which will accrue a benefit of 5461.18 MW at an estimated cost of Rs. 3116.402 Crs. The details of these 59 hydro projects are given in Statement I and II (*See* below) of the above 59 hydro schemes, the following hydro schemes of Orissa are programmed for completion during the XIth Plan.

(i) Hirakud-I (2x37.5 MW)
(ii) Hirakud-II (3x24.5 MW)
(iii) Balimela (6x60 MW)

***Statement-I***

*State-wise List of Ongoing Hydro RM&U Projects programmed for completion in the XIth Plan*

| Sl. No | Project, Agency | Inst.Cap. (MW) | Cost (Rs. in Crs.) Estimated | Expend. Incurred (Till date) | Benefits (MW) | Category | Likely Completion Schedule |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| **Himachal Pradesh** | | | | | | | |
| 1. | Bhakra LB, BBMB | 5x108 | 293.00 | - | 540.00 (LE) + 90.00 (U) | RMU&LE | 2011-12 |
| **Jammu & Kashmir** | | | | | | | |
| 2. | Salal Ph. II, NHPC | 3x115 + 3x115 | 87.28 (Being rev. to 91.46) | - | - | R&M | 2009-10 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| **Uttar Pradesh** | | | | | | | |
| 3. | Matatila, UPJVNL | 3x10.2 | 92.35 | 1.00 | 15 (U) + 30.6(LE) | RMU&LE | 2008-09 |
| 4. | Obra, UPJVNL | 3x33 | 14.50 | 4.56 | 99.00(LE) | RM&LE | 2008-09 |
| 5. | Rihand, UPJVNL | 6x50 | 136.27 | 11.58 | 300.00 (LE) | RM&LE | 2009-10 |
| **Karnataka** | | | | | | | |
| 6. | Nagjhari, U-4 to 6, KPCL | 3x135 | 41.16 | 5.96 | 45.00 (U) | RM&U | 2008-09 |
| 7. | Sharavathy Ph. B, KPCL | 10x103.5 | 15.73 | - | - | R&M | 2009-10 |
| 8. | Supa, | 2x50 | 1.55 | - | - | R&M | 2009-10 |
| 9. | Nagjhari, U1 to 6, KPCL | 3x150 (Refer S.No.6) | 14.35 | - | - | R&M | 2008-09 |
| **Kerala** | | | | | | | |
| 10. | Sabirigiri, KSEB | 6x50 | 97.21 (Being rev. to 98.56) | 53.32 | 300.00 (LE) + 35.00 (U) | RMU&LE | 2007-08 |
| **Tamil Nadu** | | | | | | | |
| 11. | Sholayar-I, TNEB | 2x35 | 40.68 | - | 14.00 (U) +70.00 (LE) | RMU&LE E | 2007-08 |
| **Orissa** | | | | | | | |
| 12. | Hirakud-II, OHPC | 3x24 | 125.52 | 54.46 | 72.00 (LE) | RM&LE | 2008-09 |
| **Manipur** | | | | | | | |
| 13. | Loktak, NHPC | 3x35 | 24.50 | - | 15.00 (Res) | R&M + Res. | 2007-08 |
| | TOTAL: | 4196.60 | 984.10 | 130.88 | 1625.60 (199(U)+ 1411.60 (LE) + 15 (Res) | | |

Abbreviations: R&M — Renovation and Modernisation; RM & U — Renovation, Modernisation and Uprating,

RM&LE — Renovation and Modernisation and Life Extension

RMU&LE — Renovation and Modernisation, Uprating and Life Extension;

R&M + Res. — Renovation & Modernisation + Restoration;

RM&LE +Res. — Renovation & Modernisation & Life Extension + Restoration;

RM&U + Res. — Renovation, Modernisation & Uprating + Restoration.

MW— Mega Watt; Res—Restoration; U — Uprating; LE— Life Extension.

***statement-II***

*State-wise List of Hydro RM&U Projects programmed for completion in the XIth Plan but works of which are yet to be taken up for implementation*

| Sl.. No. | Project, Agency | Inst. Cap (MW) | Estimated Cost (Rs. in Crs) | Benefits (MW) | Category | Likely Completion Sehedule |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **Himachal Pradesh** | | | | | | |
| 1. | Dehar, (Ph-A) BBMB | 6x165 | 11.00 | — | R&M | 2009-10 |
| 2. | Dehar,(Ph-B) BBMB | — | 49.00 | 330.00(LE) | RM&LE | XIth Plan (Likely to be deferred) |
| 3. | Giri, HPSEB | 2x33 | 8.28 | 66.00 (LE) | RM&LE | XIth Plan |
| **Jammu & Kashmir** | | | | | | |
| 4. | Chenani, J&KPDC | 5x4.66 | 23.86 (Being rev. to 34.90) | 23.30 (LE)+ 2.33 (U) | RMU&LE | XIth Plan |
| 5. | Ganderbal, J&KPDC | 2x3+2X4.5 | 28.87 | 15.00 (LE) | RM&LE | XIth Plan |
| 6. | Sumbal Sindh, J&KPDC | 2x11.3 | 16.372 | 3.00 (U) | RM&U | XIth Plan |
| **Uttaranchal** | | | | | | |
| 7. | Dhakrani, UJVNL | 3x11.25 | 27.38 | 33.75 (LE) | RM&LE | 2010-11 |
| 8. | Dhalipur, UJVNL | 3x17 | 27.91 | 51.00 (LE) | RM&LE | 2010-11 |
| 9. | Tiloth, UJVNL | 3x30 | 38.01 | — | R&M | 2010-11 |
| 10. | Khatima, UJVNL | 3x13.8 | 34.37 | 41.40 (LE) | RM&LE | 2009-10 |
| 11. | Pathri, UJVNL | 3x6.8 | 28.69 | 20.40 (LE) | RM&LE | 2009-10 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| 12 | Kulhal, UJVNL | 3x10 | 21.62 | — | R&M | 2010-11 |
| 13. | Ramganga, UJVNL | 3x66 | 31.65 | 18.00(Res) | R&M+Res. | 2008-09 |
| **Andhra Pradesh** | | | | | | |
| 14. | Hampi, APGENCO | 2x9(St.I) & 2x9 (St.II) | 25.00 | 36.00 (LE) | RM&LE | XIth Plan |
| 15. | Machkund, APGENCO | 3x17 (St.I) & 3x21.25 (St.II) | 124.45 | 15.25 (U) +114.75 (LE) | RMU&LE | XIth Plan |
| 16. | Tungabhadra, APGENCO | 4x9 | 25.00 | 36 (LE) | RM&LE | XIth Plan |
| 17. | Nagarjuna Sagar, APGENCO | 1x110+ 7x100.8 | 15.00 | 15.00 (U) | RM&U | XIth Plan |
| 18. | Upper Sileru, APGENCO | 4x60 | 10.00 | — | R&M | XIth Plan |
| 19. | Lower Sileru APGENCO | 4x115 | 200.00 | 460.00 (LE) | R&M | XIth Plan |
| 20. | Nagarjuna Sagar RBC, APGENCO | 3x30 | 5.00 | — | R&M | XIth Plan |
| **Karnataka** | | | | | | |
| 21. | Bhadra KPCL | 2X12 | 4.75 | 24 (LE) | R&M | XIth Plan |
| 22. | Lingnamakki, KPCL | 2x27.5 | 2.20 | — | RM&LE | 2008-09 |
| **Kerala** | | | | | | |
| 23. | Idukki St.I, KSEB | 3x130 | 130.00 | 390.00 (LE) | RM&LE | XIth Plan |
| 24. | Sholayar, KSEB | 3x18 | 54.00 | 54.00 (LE) | RM&LE | XIth Plan |
| 25. | Kuttiadi, KSEB | 3x25 | 25.00 | 75.00 (LE) | RM&LE | XIth Plan |
| 26. | Poringal-kuthu, KSEB | 4x8 | 9.55 | 32.00 (LE) | RM&LE | XIth Plan |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| **Tamil Nadu** | | | | | | |
| 27. | Periyar, TNEB | 4x35 | 73.8 | 140.00 (LE)+ 28.00(U) | RMU&LE | 2009-10 |
| 28. | Moyar, TNEB | 3x12 | 18.00 | 36.00(LE) | RM&LE | XIth Plan |
| 29. | Kundah St.I, TNEB | 3x20 | 50.00 | 60.00 (LE) | RM&LE | XIth Plan |
| 30. | Kundah St.II, TNEB | 5x35 | 75.00 | 175.00 (LE) | RM&LE | XIth Plan |
| 31. | Kundah St.III, TNEB | 3x60 | 70.00 | 180.00 (LE) | RM&LE | XIth Plan |
| 32. | Kundah St.IV, TNEB | 2x50 | 35.00 | 100.00 (LE) | RM&LE | XIth Plan |
| 33. | Kundah St.V, TNEB | 2x20 | 13.00 | 20.00 (LE) | RM&LE of Unit-1 & R&M of U-2 | XIth Plan |
| 34. | Kodayar PH-I, TNEB | 1x60 | 30.00 | 60.00 (LE) | RM&LE | XIth Plan |
| 35. | Kodayar PH-II, TNEB | 1x40 | 19.94 | 40.00 (LE) + 6.00 (U) | RM&LE | XIth Plan |
| **Jharkhand** | | | | | | |
| 36. | Subernrekha, JSEB | 2x65 | 65.00 (Being Revised) | 130.00 (LE) | RM&LE | XIth Plan |
| 37. | Panchet, U-1, DVC | 1x40 | 44.96 | 40.00 (LE) +6.00 (U) | RM&LE | 2008-09 |
| **Orissa** | | | | | | |
| 38. | Balimela, OHPC | 6x60 | 160.00 | 360.00 (LE) | RM&LE | XIth Plan |
| 39. | Hirakud-I U5&6, OHPC | 2x37.5 | 94.12 (Being Revised to 92.37) | 75.00 (LE) | RM&LE | 2009-10 |
| **West Bengal** | | | | | | |
| 40. | Maithon U1&3, DVC | 2x20 | 49.05 | 40.00 (LE) +6.40 (U) | RMU&LE | 2009-10 |
| **Madhya Pradesh** | | | | | | |
| 41. | Gandhi Sagar, MPPGCL | 5x23 | 46.00 | 115.00 (LE) +10.00 (U) | RM&LE | XIth Plan |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| **Maharashtra** | | | | | | |
| 42. | Koyna-III, MSPGCL | 4x80 | 150.00 | 320.00 (LE) | RM&LE | XIth Plan |
| 43. | Koyna Dam PH, MSPGCL | 2x18 | 10.00 | 8.00 (U) | RM&LE | XIth Plan |
| **Assam** | | | | | | |
| 44. | Kopili, U-1&2, NEEPCO | 2x50 | 36.01 (Likely to be Rev.) | — | R&M | XIth Plan |
| **Meghalaya** | | | | | | |
| 45. | Umium St.II, MESEB | 2x9 | 90.46 | 18.00 (LE) | RM&LE | 2008-09 |
| 46. | Kyrdemkulai, MESEB | 2x30 | 25.00 | 6.00 (U) | RM&LE | XIth Plan |
| | TOTAL: | 6128.80 | 2132.302 | 3835.58 [105.98(U)+3711.60 (LE) +18(Res.)] | | |

**Abbreviations:** R&M — Renovation & Modernization; RM& U — Renovation, Modernization & Uprating,
RM&LE — Renovation, Modernization & Life Extension
RMU&LE — Renovation, Modernization , Uprating & Life Extension;
R&M+Res. - Renovation & Modernization + Restoration;
R&M&LE+Res, - Renovation, Modernization & Life Extension + Restoration;
RM&U+Res.- Renovation Modernization & Uprating + Restoration.
MW — Mega Watt; Res — Restoration; U — Uprating; LE — Life Extension.

**Joint venture of NTPC and Coal India Ltd. for power generation**

2501. MS. PRAMILA BOHIDAR: Will the Minister of POWER be pleased to state:

(a) whether NTPC and Coal India Ltd. propose to set up 4,000 MW power generation plant in Orissa;

(b) if so, the details thereof; and

(c) the time-frame within which the joint venture would be made functional?